

### REMARKS

Claims 1-43 have been rejected on various grounds as discussed below. Reconsideration is respectfully requested.

#### The §102 Rejections

Claims 1-7, 25-31 and 41-43 stand rejected under 35 USC 102(b) as anticipated by Tajima, *et al.* 3,937,640, the Examiner alleging:

“Tajima *et al.* disclose a layered composite waterproofing membrane (Column 15, lines 31-33) comprising a layer of rubberized asphalt having first and second sides (Figure 1C, #20; Column 6, lines 6-8) with a flexible layer of durable plastic film continuously bonded to the first side (Figure 1C, #14; Column 6, line 63 to Column 7, line 11) and a layer of geotextile continuously bonded to the second side (Figure 1C, #6; Column 5, lines 39-49) as in claim 1. The rubberized asphalt is rubber-modified bitumen (Column 6, lines 5-8) comprising from about 5 to about 20 or 10 to about 15 percent rubber (Column 6, lines 31-45) as in claims 2-4. As in claims 5-7, the rubberized asphalt is modified with a block copolymer chosen from styrene-butadiene-styrene block copolymer (Column 6, line 15) or styrene-isoprene-styrene block copolymer (Column 6, line 17). Tajima *et al.* also disclose a layered composite waterproofing membrane (Column 15, lines 31-33) having an overall thickness (Figure 1C) and comprising a layer of rubberized asphalt having first and second sides (Figure 1C, #20; Column 6, lines 6-8) with a flexible layer of durable plastic film continuously bonded to the first side (Figure 1C, #6; Column 5, lines 56-58) and a release liner releasably attached to the second side (Figure 1C, #14; Column 6, line 63 to Column 7, line 11), the plastic film layer having a thickness comprising about 1/4 to about 1/3 of the overall thickness of the membrane (Figure 1C, #6) as in claim 25. The rubberized asphalt is rubber-modified bitumen (Column 6, lines 5-8) comprising from about 5 to about 20 or 10 to about 15 percent rubber (Column 6, lines 31-45) as in claims 26-28. As in claims 29-31, the rubberized asphalt is modified with a block copolymer chosen from styrene-butadiene-styrene block copolymer (Column 6, line 15) or styrene-isoprene-styrene block copolymer (Column 6, line 17). With regard to claims 41-43, the release liner comprises a polymeric film (Column 7, line 3), a paper (Column 7, line 4) or is precoated with a release agent (Column 7, lines 5-12).”

The rejection is respectfully traversed.

It has long been settled that an anticipation rejection under 35 USC 102 requires disclosure in a single prior art reference of each and every element of the claimed invention arranged as in the claim. *Connell v. Sears, Roebuck & Co.*, 722 F.2d 1542, 220 USPQ 193 (Fed.

Cir. 1983); *SSIH Equip. S.A. v. U.S. Int. Trade Comm'n*, 718 F.2d 365, 218 USPQ 678 (Fed. Cir. 1983); *Lindemann Maschinenfabrik GMBH v. American Hoist & Derrick Co.*, 1730 F.2d 1452, 221 USPQ 481 (Fed. Cir. 1984). In order to support an anticipation rejection under §102 it is also necessary that the prior art reference teach in a single structural combination all elements of the invention and the elements must perform substantially the same work the same way in both the prior art reference and the claimed invention. *McCullough Tool Co. v. Well Surveys, Inc.*, 343 F.2d 381, 145 USPQ 6 (10<sup>th</sup> Cir. 1985).

Claim 1 (as well as Claims 2-7 dependent therefrom) specifically requires a composite membrane comprising

- (i) a layer of rubberized asphalt having first and second sides;
- (ii) a flexible layer of durable plastic film bonded to the first side; and
- (iii) a layer of geotextile continuously bonded to the second side.

As set forth in the specification, the geotextile layer functions to provide resistance to damage and forms a mechanical bond to concrete poured over or against it (par.s 0013, 0022). The flexible layer of durable plastic provides a vapor barrier and the rubberized asphalt provides stress relief and self-healing properties to any punctures in the membranes.

The Tajima, *et al.* reference discloses a composite membrane comprising, in its simplest form (see Fig. 1C), a base support film 6 which is coated with a bitumen layer 8. A rubberized bitumen layer 20 is formed on the bitumen layer 8 and the rubberized bitumen layer 20 is protected (prior to application) with a release sheet 14. This structure has no similarity to the structure claimed.

Contrary to the Examiner's allegations, base support film 6 is not (and cannot function as) the geotextile layer claimed. As described by Tajima, *et al.*, base support film 6 is "a glass

fleece or non-woven fabric of synthetic fiber” (Col. 5, lines 44-45) or “film or foil sheets made of synthetic polymer or metal such as for example a polyester film or an aluminum or copper foil” (Col. 5, lines 56-59). Obviously, base support film 6 cannot be considered a “geotextile” and cannot perform the function of bonding to concrete as is required of the geotextile layer of the invention.

More significantly, Claim 1 requires the geotextile layer to be “continuously bonded to the second side” of the layer of rubberized asphalt. In Tajima, *et al.* the support film 6 is bonded to a layer 8 of bitumen which, in turn, supports a layer 20 of rubberized bitumen. Obviously, the base support film 6 is not “continuously bonded” to the rubberized asphalt layer 20. It is separated therefrom by a layer 8 of bitumen.

Even more significantly, Claim 1 requires “a flexible layer of durable plastic film continuously bonded to the first side of” the rubberized bitumen. Contrary to the Examiner’s allegation, film 14 is *not* a “flexible layer of durable plastic film” and cannot perform the function of the durable plastic film defined by Claim 1. As clearly disclosed by Tajima, *et al.*, film 14 is a release sheet “laid over the surfaces of the compound bitumen 20,...[and has] little or no affinity with respect to the compound bitumen...” Since this release sheet is removed during application, it performs no function whatsoever in the installed product and clearly cannot provide a vapor barrier as required of the durable plastic film of Claim 1.

In the present application, Applicants seek to provide a stress-relieving barrier membrane comprising a layer of rubberized asphalt sandwiched between a geotextile (bonded to one side) and a durable plastic film (bonded to the opposite side). The durable plastic film provides a vapor barrier. The geotextile provides strength and resistance to damage as well as means to connect the membrane to concrete. The rubberized asphalt provides stress relief and self-healing

of punctures in the barrier. No such structure is shown or even remotely suggested in the Tajima, *et al.* reference.

Not only is the claimed structure not disclosed in the reference, the structures disclosed by the reference cannot perform the same functions and simply cannot operate in the same way as the structure claimed. Accordingly, it is respectfully submitted that the rejection of Claim 1 as anticipated by Tajima, *et al.* is wholly inapposite and must be withdrawn.

Claims 2-7 all contain the same limitations as Claim 1 and therefore are deemed patentable over the same reference for the same reasons. Furthermore, since these claims specifically define characteristics of the rubberized asphalt layer in the membrane structure defined by Claim 1, nothing found in the Tajima, *et al.* reference can be used to support a rejection of these claims under Sec. 102. Therefore, the rejection of Claims 1-7 under 35 USC 102 is wholly without support and must be withdrawn.

Claim 25 (as well as Claims 26-31 and 41-43 dependent therefrom) defines a waterproofing membrane at least 30 mils thick which comprises:

- (i) a layer of rubberized asphalt having first and second sides;
- (ii) a flexible layer of durable plastic film continuously bonded to the first side; and
- (iii) a release liner releaseably attached to the second side,

in which the plastic film comprises from about 1/4 to about 1/3 the overall thickness of the membrane.

As noted above, nowhere does the Tajima, *et al.* reference disclose or even remotely suggest a durable plastic film bonded to a layer of rubberized asphalt. In fact, this reference fails to even disclose a durable plastic film in any structure or for any purpose. If the base support film 6 (see Fig. 1C) is considered the “durable plastic film,” the structure disclosed fails to satisfy the

limitations of Claim 25 because the rubberized bitumen layer 20 is bonded to bitumen layer 8, not to base support film 6. Film 14 cannot be considered a durable plastic film (as alleged by the Examiner). Film 14 is clearly disclosed as a release sheet (see Col. 6, lines 63-68). Furthermore, since Claim 25 specifically requires a durable plastic film bonded to one side of a rubberized asphalt layer and a release liner on the opposite side, it would be necessary to consider base support film 6 as the "release liner." No such construction can be logically gleaned from the disclosure of Tajima, *et al.*

Claims 26-31 and 41-43 all contain the same limitations as Claim 25 and therefore are deemed patentable over the same references for the same reasons. Furthermore, Claims 26-31 define characteristics of the rubberized asphalt layer in the membrane structure of Claim 25 and Claims 41-43 define characteristics of the release liner. Since nothing found in Stierli supports a Sec. 102 rejection of Claim 25, nothing found in that reference can support a Sec. 102 rejection of dependent claims which specifically define characteristics of certain elements of the parent claim which are not found in the reference. Accordingly, the rejection of Claims 25-31 and 41-43 as obvious in view of Tajima, *et al.* is wholly without support and must be withdrawn.

Claims 1-4, 8-12, 23-28, 33 and 39-43 have been further rejected under 35 USC 102(b) as anticipated by Stierli 4, 442, 148, the Examiner alleging:

Stierli discloses a layered composite waterproofing membrane (Column 1, lines 5-7) comprising a layer of rubberized asphalt having first and second sides (Figure 1, #1; Column 2, lines 51-55) with a flexible layer of durable plastic film continuously bonded to the first side (Column 2, lines 55-57); Figure 1, #3) and a layer of geotextile continuously bonded to the second side (Column 3, lines 42-45) as in claim 1. The rubberized asphalt is rubber-modified bitumen comprising from about 5 to about 20 or 10 to about 15 percent rubber (Column 3, lines 9-15) as in claims 2-4. As in claims 8 and 9, the plastic film has a thickness ranging from about 1 mil up to a thickness where the layer ceases to be flexible (Column 3, lines 58-61), and the plastic is cross-laminated to resist punctures (Column 3, line 66 to Column 4, line 1). With regard to claims 10 and 11, the plastic film layer has a thickness ranging from about 10- to about 25 mils or about 20

mils (Column 3, lines 58-61). The plastic film layer comprises polyethylene (Column 3, line 67) as in claim 12. Regarding claims 23 and 24, the membrane has an overall thickness ranging from about 30 to about 150 mils or about 65 to about 95 mils (Column 3, lines 35-38; Column 3, lines 58-61). Stierli also discloses a layered composite waterproofing membrane (Column 1, lines 5-7) having an overall thickness and comprising a layer of rubberized asphalt having first and second sides (Figure 1, #1; Column 2, lines 51-55) with a flexible layer of durable plastic film continuously bonded to the first side (Column 2, lines 55-57; Figure 1, #3) and a release liner releasably attached to the second side (Column 4, lines 28-33; Figure 1, #4), the plastic film layer having a thickness comprising about 1/4 to about 1/3 of the overall thickness of the membrane (Column 3, lines 58-61) as in claim 25. The rubberized asphalt is rubber-modified bitumen comprising from about 5 to about 20 or 10 to about 15 percent rubber (Column 3, lines 9-15) as in claims 26-28. The plastic film layer comprises polyethylene (Column 3, line 67) as in claim 34. Regarding claims 39 and 40, the membrane has an overall thickness ranging from about 30 to about 150 mils or about 65 to about 95 mils (Column 3, lines 35-38; Column 3, lines 58-61). With regard to claims 41-43, the release liner comprises a polymeric film, a paper or is precoated with a release agent (Column 4, lines 28-33; Figure 1, #4).

The rejection is respectfully traversed.

Claim 1 (as well as Claims 2-4, 8-12, 23 and 24 dependent therefrom) specifically requires a composite membrane comprising

- (iv) a layer of rubberized asphalt having first and second sides;
- (v) a flexible layer of durable plastic film bonded to the first side; and
- (vi) a layer of geotextile continuously bonded to the second side.

As set forth in the specification, the geotextile layer functions to provide resistance to damage and forms a mechanical bond to concrete poured over or against it (par.s 0013, 0022). The flexible layer of durable plastic provides a vapor barrier and the rubberized asphalt provides stress relief and self-healing properties to any punctures in the membranes.

The Stierli reference discloses a composite membrane comprising a base support sheet 3 which carries a bituminous composition layer 1. A "polymer coating barrier layer 2" (see Col. 2, line 59) is disposed between the support sheet 3 and the bituminous layer 1 to "protect the

polyethylene film 3 from being substantially contacted by oils present in the bituminous composition 1” (Col. 2, lines 57-59). Nowhere does Stierli show or even remotely suggest a structure comprising a rubberized asphalt layer sandwiched between a vapor barrier film and a geotextile. In fact, after removal of the release sheet 4, a barrier film 1 is attached to one side of the bituminous layer 1 and *nothing* is bonded to the opposite side of the bituminous layer 1.

Contrary to the Examiner’s allegations, Stierli does not show a “geotextile continuously bonded to the second side” (Official Action, par. 3). Instead, Stierli describes the bituminous layer 1 as having “a reinforcement such as an open weave fabric...*located therein* to strengthen it” (Col. 3, lines 42-25, emphasis added). In the same paragraph, Stierli expressly states that the surface of the bituminous layer 1 “remote from the support sheet 3” remains exposed so as to be “self-adhesive to the substrate.” Layer 3 is protected (prior to application) with a release sheet 4. This structure has no similarity to the structure claimed.

Significantly, Claim 1 requires a geotextile layer “continuously bonded to the second side” of the layer of rubberized asphalt. In Stierli the support film 3 is bonded to the first side of bitumen layer 1 but the second side *is not bonded to anything*. In fact, there is no geotextile layer shown or even suggested.

In the present application, Applicants seek to provide a stress-relieving barrier membrane comprising a layer of rubberized asphalt sandwiched *between* a geotextile (bonded to one side) and a durable plastic film (bonded to the opposite side). The durable plastic film provides a vapor barrier. The geotextile provides strength and resistance to damage. The rubberized asphalt provides stress relief and self-healing of punctures in the barrier. No such sandwich structure is shown or even remotely suggested by Stierli. Instead, Stierli merely shows a support sheet 3 coated with an oil-protective coating 2 on which is supported a bituminous layer 1.

Not only is the claimed structure not disclosed in the reference, the structure disclosed by the reference cannot perform the same functions and simply cannot operate in the same way as the structure claimed. Accordingly, it is respectfully submitted that the rejection of Claim 1 as anticipated by Stierli is wholly inapposite and must be withdrawn.

Claims 2-4, 8-12, 23 and 24 all contain the same limitations as Claim 1 and therefore are deemed patentable over the same reference for the same reasons. Furthermore, since these claims specifically define characteristics of the rubberized asphalt layer, the barrier film or the textile layer in the membrane structure defined by Claim 1 (and/or combinations of the claimed membrane with other structures such as drainage mats, *etc.*), nothing found in the Stierli reference can be used to support a rejection of these claims under Sec. 102. Therefore, the rejection of Claims 1-4, 8-12, 23 and 24 as obvious in view of Stierli is wholly without support and must be withdrawn.

Claim 25 (as well as Claims 26-28, 33 and 39-43 dependent therefrom) defines a waterproofing membrane at least 30 mils thick which comprises:

- (iv) a layer of rubberized asphalt having first and second sides;
- (v) a flexible layer of durable plastic film continuously bonded to the first side; and
- (vi) a release liner releaseably attached to the second side,

in which the plastic film comprises from about 1/4 to about 1/3 the overall thickness of the membranes.

As noted above, Stierli discloses a composite membrane comprising a bituminous layer 1 with one surface protected by a release sheet 4. The opposite surface supports a polymeric support sheet 3 which is secured to the bituminous layer 1 with an intermediate oil-resistant barrier 2 which protects the support sheet 3 from oils contained to the bituminous layer 1.



It should first be noted that Claim 25 specifically requires a durable plastic film to be “continuously bonded” to a layer of “rubberized asphalt.” Stierli discloses a plastic film 3 and a layer of oil-containing bituminous material 1. However, Stierli’s bituminous material 1 is not “continuously bonded” to the polymeric support sheet 3. Instead, an oil-resistant coating 2 is imposed between the support sheet 3 and the bituminous material 1. Thus Stierli fails to disclose the most basic part of the claimed structure.

More significantly, Claim 25 specifically requires that:

- (i) the composite membrane must be at least 30 mils thick, and
- (ii) the plastic film must comprise about 1/3 to 1/4 of the total thickness of the membrane.

In Applicants’ specification the “durable plastic film” (see par. 0020) is described as “heavy gauge” and is preferably a high density polyethylene film having a thickness from about 10 to about 25 mils. This “heavy gauge” film is defined in Claim 25 as “a flexible layer of durable plastic film.”

Stierli describes a conventional layer of sealing material supported on a conventional thin plastic film (disclosed as 8 mils thick) which comprises 8/68 (12%) of the total thickness of the membrane (see Col. 4, lines 41-55). Obviously, the thin film of Stierli does not qualify as “a flexible layer of durable plastic film” as defined by Claim 25. Furthermore, the thin film 3 of Stierli supports a bituminous layer 1 which is 60 mils thick. Thus the overall thickness of the Stierli membrane is at least 68 mils plus the thickness of the oil-resistant coating 2. Since the thin film 3 comprises less than 12% of the total thickness of the Stierli membrane, nothing in Stierli can be construed as disclosing a membrane in which the plastic film comprises 1/3 to 1/4 the total thickness of the membrane.

In the present application, Applicants seek to provide a “peel and stick” membrane comprising a rubberized asphalt layer which is thick enough to provide stress relief (as well as adherence and waterproof sealing) supported on a plastic support film which is sufficiently thick and durable to support the rubberized asphalt and provide a vapor barrier yet remain sufficiently flexible to permit “peel and stick” application. The critical limitations set forth in Claim 25 are that the membrane be at least 30 mils thick and the plastic film comprise 1/3 to 1/4 the total thickness of this membrane. No such structure is remotely suggested in Stierli.

Not only is the claimed structure not disclosed in the reference, none of the elements of the structure disclosed by the reference can perform the functions required in Claim 25 and simply cannot operate in the same way as the structure claimed. Accordingly, it is respectfully submitted that the rejection of Claim 25 as anticipated by Stierli is wholly inapposite and must be withdrawn.

Claims 26-28, 33 and 39-43 all contain the same limitations as Claim 25 and therefore are deemed patentable over the same reference for the same reasons. Furthermore, since these claims specifically define characteristics of the rubberized asphalt layer, the plastic film or the release sheet in the membrane structure defined by Claim 25, nothing found in the Stierli reference can be used to support a rejection of these claims under Sec. 102. Therefore, the rejection of Claims 1-4, 8-12, 23-28, 33 and 39-43 under 35 USC 102 is wholly without support and must be withdrawn.

### **The §103 Rejections**

Claims 13 and 34 stand rejected under 35 USC 103(a) as obvious in view of Stierli considered with Draper, *et al.* 3,474,625, the Examiner alleging:

“Stierli discloses a layered composite waterproofing membrane (Column 1, lines 5-7) comprising a layer of rubberized asphalt having first and second sides (Figure 1, #1; Column 2, lines 51-55) with a flexible layer of durable plastic film continuously bonded to the first side (Column 2, lines 55-57; Figure 1, #3) and a layer of geotextile continuously bonded to the second side (Column 3, lines 42-45). Stierli also discloses a layered composite waterproofing membrane (Column 1, lines 5-7) having an overall thickness and comprising a layer of rubberized asphalt having first and second sides (Figure 1, #1; Column 2, lines 51-55) with a flexible layer of durable plastic film continuously bonded to the first side (Column 2, lines 55-57; Figure 1, #3) and a release liner releasably attached to the second side (Column 4, lines 28-33; Figure 1, #4), the plastic film layer having a thickness comprising about 1/4 to about 1/3 of the overall thickness of the membrane (Column 3, lines 58-61). However, Stierli fails to disclose the plastic film layer comprising polypropylene.

Draper et al. teach a laminate of asphaltic material and a film of a polypropylene (Column 6, lines 42-43) for the purpose of preventing reflection cracking of a surface that is being used to repair a surface or roadway (Column 2, lines 60-63).

It would have been obvious to one of ordinary skill in the art at the time the applicant's invention was made to have provided the polypropylene film material in Stierli in order to prevent reflection cracking of a surface that is being used to repair a surface or roadway as taught by Draper et al.”

The rejection is respectfully traversed.

In rejecting claims under 35 USC 103, the Examiner bears the initial burden of presenting a *prima facie* case of obviousness. *In re Oetiker*, 977 F.2d 1443 (Fed. Cir. 1992). Only if that burden is met does the burden of coming forward with argument or evidence shift to the applicant. A *prima facie* case of obviousness is established only when the teachings from the prior art itself would appear to have suggested the claimed subject matter to a person of ordinary skill in the art. *In re Bell*, 991 F.2d 781, 782, 26 USPQ 143,147 (CCPA 1976). If the Examiner fails to establish a *prima facie* case, the rejection is improper. *In re Fine*, 837 F.2d 1071, 1074, 5 USPQ2d 1596, 1598 (Fed. Cir. 1998).

As pointed out above, Stierli (contrary to the Examiner's allegations) fails to disclose any of the essential elements of Claim 1 (from which Claim 13 depends) or Claim 25 (from which Claim 34 depends). Stierli fails to show or even remotely suggest a geotextile bonded to one

surface of a rubberized asphalt layer (as required by Claim 13) and fails to show or suggest a composite membrane at least 30 mils thick having a rubberized asphalt layer bonded to a plastic film which comprises 1/3 to 1/4 the total thickness of the membrane as required by Claim 34. Draper, *et al.* provide none of the deficiencies of Stierli. The Draper reference merely discloses a laminate of polyolefin fabric and asphaltic material for use as sealants. Nowhere does the Draper reference disclose or even remotely suggest how Stierli can be modified to produce a sandwich membrane comprising a layer of rubberized asphalt with one surface bonded to a plastic film and the other surface bonded to a geotextile (Claim 13), or how Stierli can be modified to produce a composite membrane at least 30 mils thick comprising a rubberized asphalt layer supported by a plastic film which comprises 1/3 to 1/4 the thickness of the membrane (Claim 34). Accordingly, nothing found in Draper, *et al.* can be combined with Stierli to support a rejection of Claim 13 or Claim 34 under Sec. 103.

Claims 14 and 35 stand rejected under 35 USC 103(a) as obvious in view of Stierli considered with Clapperton 4,386,981, the Examiner alleging:

“Stierli discloses a layered composite waterproofing membrane (Column 1, lines 5-7) comprising a layer of rubberized asphalt having first and second sides (Figure 1, #1; Column 2, lines 51-55) with a flexible layer of durable plastic film continuously bonded to the first side (Column 2, lines 55-57; Figure 1, #3) and a layer of geotextile continuously bonded to the second side (Column 3, lines 42-45). Stierli also discloses a layered composite waterproofing membrane (Column 1, lines 5-7) having an overall thickness and comprising a layer of rubberized asphalt having first and second sides (Figure 1, #1; Column 2, lines 51-55) with a flexible layer of durable plastic film continuously bonded to the first side (Column 2, lines 55-57; Figure 1, #3) and a release liner releasably attached to the second side (Column 4, lines 28-33, Figure 1, #4), the plastic film layer having a thickness comprising about 1/4 to about 1/3 of the overall thickness of the membrane (Column 3, lines 58-61). However, Stierli fails to disclose the plastic film layer comprising high-density polyethylene.

Clapperton teaches a laminate of asphaltic material and a high-density polyethylene (Column 5, lines 1-17) for the purpose of preventing moisture vapor transmission through the laminate (Column 2, lines 60-63).

It would have been obvious to one of ordinary skill in the art at the time the applicant's invention was made to have provided the polypropylene film material in Stierli in order to prevent moisture vapor transmission through the laminate as taught by Clapperton."

The rejection is respectfully traversed.

As pointed out above, Stierli (contrary to the Examiner's allegations) fails to disclose any of the essential elements of Claim 1 (from which Claim 14 depends) or Claim 25 (from which Claim 35 depends). Stierli fails to show or even remotely suggest a geotextile bonded to one surface of a rubberized asphalt layer (as required by Claim 14) and fails to show or suggest a composite membrane at least 30 mils thick having a rubberized asphalt layer bonded to a plastic film which comprises 1/3 to 1/4 the total thickness of the membrane as required by Claim 35.

Clapperton provides none of the deficiencies of Stierli. Clapperton merely discloses a laminate of polyethylene film supporting a layer of asphaltic material for use as sealants. At best, Clapperton discloses a laminate which has a support film which is 2 mils thick supporting a bituminous adhesive which is 32 mils thick (see Col. 5, lines 17-23). No geotextile layer (Claim 14) or support film which comprises 1/2 to 1/4 the total thickness of the membrane is disclosed or suggested.

Nowhere does Clapperton disclose or even remotely suggest how Stierli can be modified to produce a sandwich membrane comprising a layer of rubberized asphalt with one surface bonded to a plastic film and the other surface bonded to a geotextile (Claim 14), or how Stierli can be modified to produce a composite membrane at least 30 mils thick comprising a rubberized asphalt layer supported by a plastic film which comprises 1/3 to 1/4 the thickness of the membrane (Claim 35). Accordingly, nothing found in Draper, *et al.* can be combined with Stierli to support a rejection of Claim 14 or Claim 35 under Sec. 103.

Claims 15-19 stand rejected under 35 USC 103(a) as obvious in view of Stierli considered with Dempsey, *et al.* 5,513,925), the Examiner alleging:

“Stierli discloses a layered composite waterproofing membrane (Column 1, lines 5-7) comprising a layer of rubberized asphalt having first and second sides (Figure 1, #1; Column 2, lines 51-55) with a flexible layer of durable plastic film continuously bonded to the first side (Column 2, lines 55-57; Figure 1, #3) and a layer of geotextile continuously bonded to the second side (Column 3, lines 42-45). Stierli also discloses a layered composite waterproofing membrane (Column 1, lines 5-7) having an overall thickness and comprising a layer of rubberized asphalt having first and second sides (Figure 1, #1; Column 2, lines 51-55) with a flexible layer of durable plastic film continuously bonded to the first side (Column 2, lines 55-57; Figure 1, #3) and a release liner releasably attached to the second side (Column 4, lines 28-33, Figure 1, #4), the plastic film layer having a thickness comprising about 1/4 to about 1/3 of the overall thickness of the membrane (Column 3, lines 58-61). However, Stierli fails to disclose the geotextile being non-woven, made of fibers comprising olefinic polymers, poly-alpha olefins and polyesters or polypropylene.

Dempsey teaches a geotextile being non-woven (Column 6, lines 34-35), made of fibers comprising olefinic polymers, poly-alpha olefins and polyesters or polypropylene (Column 3, lines 1-16) for the purpose of having a material that allows horizontal movement in an underlying surface to which it is attached without breaking the bond with the underlying pavement (Column 2, lines 58-61).

It would have been obvious to one of ordinary skill in the art at the time the applicant's invention was made to have provided the geotextile being non-woven, made of fibers comprising olefinic polymers, poly-alpha olefins and polyesters or polypropylene in Stierli in order to have a material that allows horizontal movement in an underlying surface to which it is attached without breaking the bond with the underlying pavement as taught by Dempsey.”

The rejection is respectfully traversed.

As pointed out above, Stierli (contrary to the Examiner's allegations) fails to disclose any of the essential elements of Claim 1 from which Claims 15-19 depend. Stierli fails to show or even remotely suggest a geotextile bonded to one surface of a rubberized asphalt layer and likewise fails to show or suggest a composite membrane having a rubberized asphalt layer sandwiched between a geotextile and a flexible layer of durable plastic film as required by Claim 1 (and thus all claims dependent therefrom). The Dempsey reference merely discloses a laminate of geotextiles and asphaltic materials for use as roadway underlays. Dempsey, *et al.*

does not show or even remotely suggest combining the sandwich structure of Dempsey, *et al.* with the sandwich structure of Stierli. Furthermore, Dempsey, *et al.* does not even disclose a vapor barrier material (such as the plastic film of Applicants' Claim 1 from which Claims 15-19 depend). Furthermore, nowhere does the Dempsey reference disclose or even remotely suggest how Stierli can be modified to produce a sandwich membrane comprising a layer of rubberized asphalt with one surface bonded to a plastic film and the other surface bonded to a geotextile, regardless of the nature of the geotextile to be used. Accordingly, nothing found in Dempsey can be combined with Stierli to support a rejection of any of Claims 15-19 under Sec. 103.

Claims 20-22 and 36-38 stand rejected under 35 USC 103(a) as obvious in view of Stierli considered with Bohnhoff 5,250,340, the Examiner alleging:

“Stierli discloses a layered composite waterproofing membrane (Column 1, lines 5-7) comprising a layer of rubberized asphalt having first and second sides (Figure 1, #1; Column 2, lines 51-55) with a flexible layer of durable plastic film continuously bonded to the first side (Column 2, lines 55-57; Figure 1, #3) and a layer of geotextile continuously bonded to the second side (Column 3, lines 42-45). Stierli also discloses a layered composite waterproofing membrane (Column 1, lines 5-7) having an overall thickness and comprising a layer of rubberized asphalt having first and second sides (Figure 1, #1; Column 2, lines 51-55) with a flexible layer of durable plastic film continuously bonded to the first side (Column 2, lines 55-57; Figure 1, #3) and a release liner releasably attached to the second side (Column 4, lines 28-33; Figure 1, #4), the plastic film layer having a thickness comprising about 1/4 to about 1/3 of the overall thickness of the membrane (Column 3, lines 58-61). However, Stierli fails to disclose a drainage mat attached to the high-density polyethylene layer by bonding through adhesive.

Bohnhoff teaches a drainage mat (Figure 7) attached to the high-density polyethylene layer (Column 1, lines 57-60) by bonding through adhesive (Column 4, lines 51-55) for the purpose of providing a stabilized surface for vehicular or pedestrian traffic (Column 4, lines 63-66).

It would have been obvious to one of ordinary skill in the art at the time the applicant's invention was made to have provided the drainage mat attached to the high density polyethylene layer by bonding through adhesive in Stierli in order to provide a stabilized surface for vehicular or pedestrian traffic as taught by Bohnhoff.”

The rejection is respectfully traversed.

As pointed out above, Stierli (contrary to the Examiner's allegations) fails to disclose any of the essential elements of Claim 1 (from which Claims 20-22 depend) or Claim 25 (from which Claims 36-38 depend). Stierli fails to show or even remotely suggest a geotextile bonded to one surface of a rubberized asphalt layer (as required by Claims 20-22) and fails to show or suggest a composite membrane at least 30 mils thick having a rubberized asphalt layer bonded to a plastic film which comprises 1/3 to 1/4 the total thickness of the membrane as required by Claims 36-38.

Bohnhoff provides none of the deficiencies of Stierli. Bohnhoff merely discloses a drainage mat attached to a polyethylene film. No sandwich structure comprising a layer of rubberized asphalt is remotely suggested.

Nothing found in Bohnhoff can be combined with Stierli to form the structure of Claim 1, much less the unique structures of Claims 20-22. Likewise, nothing found in Bohnhoff suggests any sandwich of rubberized asphalt and barrier film which is at least 30 mils thick and in which the barrier film is 1/3 to 1/4 the total thickness of the membrane sandwich.

Not only does Bohnhoff fail to provide the deficiencies of Stierli, combination of Bohnhoff with Stierli would fail to provide any of the structures defined by Claims 20-22 or 36-38. Nor does the Examiner offer any suggestion as to how the references could be combined.

Since combination of the references would fail to produce the invention claimed, and since nothing in either reference suggests any such combination, it is respectfully submitted that the rejection of Claims 20-22 and 36-38 cannot be supported under 35 USC 103 and must be withdrawn.

Claim 32 stands rejected under 35 USC 103(a) as obvious in view of Stierli considered with Terry, *et al.* 5,763,036, the Examiner alleging:



“Stierli discloses a layered composite waterproofing membrane (Column 1, lines 5-7) having an overall thickness and comprising a layer of rubberized asphalt having first and second sides (Figure 1, #1; Column 2, lines 51-55) with a flexible layer of durable plastic film continuously bonded to the first side (Column 2, lines 55-57; Figure 1, #3) and a release liner releasably attached to the second side (Column 4, lines 28-33; Figure 1, #4), the plastic film layer having a thickness comprising about 1/4 to about 1/3 of the overall thickness of the membrane (Column 3, lines 58-61). However, Stierli fails to disclose a release liner with a thickness ranging up to about 4 mils.

Terry et al. teach a release liner with a thickness ranging up to about 4 mils (Column 4, lines 47-47) as part of moisture barrier (Column 8, lines 36-37) for the purpose of protecting the tacky surface of the bitumen prior to use (Column 4, lines 55-58).

It would have been obvious to one of ordinary skill in the art at the time the applicant's invention was made to have provided the release liner with a thickness ranging up to about 4 mils in Stierli in order to protect the tacky surface of the bitumen prior to use as taught by Terry et al.”

The rejection is respectfully traversed.

As pointed out above, Stierli (contrary to the Examiner's allegations) fails to disclose any of the essential elements of Claim 25 from which Claim 32 depends. Stierli fails to show or even remotely suggest a composite membrane at least 30 mils thick having a rubberized asphalt layer bonded to a plastic film which comprises 1/3 to 1/4 the total thickness of the membrane as required by Claim 32.

Terry, *et al.* provide none of the deficiencies of Stierli. The Terry reference discloses a urethane-modified bitumen layer sandwiched between a polyethylene film and a release film. Terry, *et al.* do *not* show or suggest a composite membrane at least 30 mils thick having a rubberized asphalt layer bonded to a plastic film which comprises 1/3 to 1/4 the thickness of the membrane. Since this essential limitation is not found in either Stierli or Terry, *et al.*, and since nothing in either reference would suggest such a structure or any need or desire to produce such structure, nothing found in these references can be combined to produce the invention defined by Claim 32. The mere fact that the secondary reference discloses specific release films cannot be

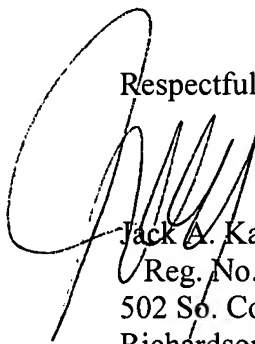
used to support a combination reference where essential limitations in the parent claim are not found in either reference. Accordingly, the obviousness rejection of Claim 32 is clearly inapposite and should be withdrawn.

The Wenz, *et al.*, Gaidis, *et al.*, Simpson, *et al.*, Chapa and Harkness references cited by the Examiner as "considered pertinent" but not relied on have been carefully reviewed. It is respectfully submitted, however, that none of these references, considered singly or in any combination, are remotely pertinent to the invention claimed since none disclose the essential elements of Applicants' Claims 1-43 and none can be used to perform the functions of the inventions defined by Claims 1-43.

Since Claims 1-43 have been shown to be patentable over the references cited, and since the references cited by the Examiner as "considered pertinent" have not been shown to disclose any structure remotely relevant to the invention claimed, all as set forth hereinabove, it is respectfully requested that Claims 1-43 be allowed and the case passed to issue. An early action to that effect is earnestly solicited.

In the event a telephone conference could resolve any outstanding issues, a telephone call to the undersigned is invited.

Respectfully submitted,



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